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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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HEWLETT-PACKARD COMPANY
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EXAMINER

HSIEH, SHIH WEN

ART UNIT PAPER NUMBER

2861

DATE MAILED: 10/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/053,665

Applicant(s)

HARPER, KIT L.

Examiner

Shih-wen Hsieh

Art Unit

2861

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 July 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters; prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-26 is/are allowed.
- 6) ☒ Claim(s) 27-30 is/are rejected.
- 7) ☐ Claim(s) is/are objected to.
- 8) ☐ Claim(s) are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. .
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s)
- 4) ☐ Interview Summary (PTO-413) Paper No(s).
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Response to Amendment

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 27, 29 and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakahara et al. (US Pat. No. 6,074,037).

In regard to:

Claim 27:

Nakahara et al. teach:

A method for use in a printing device having a print head that includes a plurality of nozzles, comprising:

capping the print head during periods of nonuse, refer to col. 2, lines 16-21;

diffusing pressure variations that occur during capping of the print head, refer to col. 2, lines 22-33; and

isolating the print head from ambient during capping of the print head, refer to col. 2, lines 10-15 and lines 55-58.

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Claim 29:

Nakaha et al. further teach:

collecting vapor released from the print head during capping of the print head, refer to col. 2, lines 55-58. Please note: since the space enclosed by the cap integrated with the deform section is not connected with the atmosphere, the vapor released from the print head during capping of the print head is collected within the capping device.

Claim 30:

Nakaha et al. further teach:

limiting loss of vapor collected from the print head during capping.

Rejection:

The basis for rejection is the same as that discussed for claim 29 above.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakahara et al.

Nakahara et al. further teach:

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A plurality of print heads (2, fig. 1).

The device of Nakahara et al. DIFFERS from claim 28 in that it does not teach:

isolating each of the print heads from communication with one another.

Since each of the print head with its own cartridges 5A, 5B, 5C and 5D is integrally mounted in a carriage (4, fig. 1), it would be an obvious matter that each of the print head is not communicated with one another due to one print head associated with one cartridge. Or, each ink contained in the ink cartridge is confined within its own ink container and flows to its own nozzle(s).

Allowable Subject Matter

5. Claims 1-26 are allowed.

6. The following is an examiner's statement of reasons for allowance:

In regard to:

Claims 1-6:

The primary reason for the allowance of claims 1-6 is the inclusion of the limitation of a reservoir coupled to the cap via the vent and configured to be isolated from ambient as the sealing chamber abuts the print head. It is this limitation found in each of the claims, as they are claimed in the combination that has not been found, taught or suggested by the prior art of record, which makes these claims allowable over the prior.

Claims 7-12:

The primary reason for the allowance of claims 7-12 is the inclusion of the limitation of the diffusion path, first cavity, and second cavity are sealed from ambient during capping of the print head. It is this limitation found in each of the claims, as they are claimed in the combination that has not been found, taught or suggested by the prior art of record, which makes these claims allowable over the prior.

Claims 13-16:

The primary reason for the allowance of claims 13-16 is the inclusion of the method steps of diffusing pressure variations caused by capping into a fixed volume; and sealing the print head and fixed volume from ambient during capping. It is these steps found in each of the claims, as they are claimed in the combination that has not been found, taught or suggested by the prior art of record, which makes these claims allowable over the prior.

Claims 17-23:

The primary reason for the allowance of claims 17-23 is the inclusion of the limitation of a plurality of separate chambers each of which is coupled to a different cap via a different opening, each of which is isolated to receive vapor from a single print head, and each of which is sealed from ambient during capping and print head engagement. It is this limitation found in each of the claims, as they are claimed in the combination that has not been found, taught or suggested by the prior art of record, which makes these claims allowable over the prior.

Claims 24-26:

The primary reason for the allowance of claims 24-26 is the inclusion of the limitation of a reservoir coupled to the cap via the vent and configured to be isolated from ambient as the sealing chamber abuts the print head. It is this limitation found in each of the claims, as they are claimed in the combination that has not been found, taught or suggested by the prior art of record, which makes these claims allowable over the prior.

Response to Arguments

7. Applicant's arguments with respect to claims 27-30 have been considered but are moot in view of the new ground(s) of rejection.

US 6,074,073 to Nakahara et al. teach a cap having a deform section, which can absorb pressure variations during capping. Since claim 27 does not recite a fixed volume, therefore, Nakahara et al.'s teaching read on claims 27, 29 and 30.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shih-wen Hsieh whose telephone number is 703-305-4961. The examiner can normally be reached on 7:30AM -5:00PM.

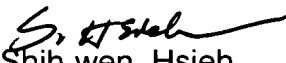
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, B. Fuller can be reached on 703-308-0079. The fax

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phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

SHIH-WEN HSIEH
PRIMARY EXAMINER


Shih-wen Hsieh
Primary Examiner
Art Unit 2861

SWH



Oct. 15, 2003